

WHAT IS CLAIMED IS:

1 1. A clip for connecting a member such as a panel to
2 a body such as a car body, comprising:
3 a pin with a head and a shank extending from the head;
4 a bushing with a flange and a shank extending from the
5 flange, and with a through-hole in the flange and the
6 bushing shank into which the pin shank is inserted; and
7 a water-tight seal member on the pin shank adjacent to
8 the head for compression between the pin head and the
9 flange,

10 wherein a stop is formed on at least the pin head or
11 the flange to keep a predetermined compressed thickness of
12 the seal member when the pin shank is inserted into the
13 through-hole to press the seal member between the pin head
14 and the flange.

1 2. A clip according to claim 1, wherein the pin head
2 is a circular plate with a diameter smaller than the
3 diameter of the bushing flange, the stop comprises plate
4 portions extending outwardly from the pin head, and an
5 outer wall is formed on an outer edge of the bushing flange
6 and is disposed to engage the stop plate portions when the
7 seal member is compressed between the pin head and the

8 flange, and the height of the outer wall is predetermined
9 to provide a predetermined compressed thickness of the seal
10 member.

1 3. A clip according to claim 2, wherein the flange
2 has a recess surrounded by the outer wall for receiving the
3 seal member.

1 4. A clip according to claim 3, wherein a gap is
2 formed between an outer edge of the pin head and the outer
3 wall of the bushing flange, except where the stop plate
4 portions are located, for insertion of a tool for
5 separating the pin head from the flange.

1 5. A clip according to claim 1, wherein the pin shank
2 and the bushing shank have cooperable parts that cause the
3 bushing shank to expand outwardly at an expanded-diameter-
4 connection position where the pin shank is inserted
5 substantially completely into the bushing shank for
6 connecting a member and a body having aligned holes through
7 which the shanks are inserted.

1 6. A clip according to claim 5, wherein the pin shank
2 and the bushing shank have cooperable parts that connect
3 the shanks in a non-expanded-diameter-connection position
4 in which the bushing shank is not expanded when the pin
5 shank is inserted partially into the bushing shank.

1 7. A clip according to claim 6, further comprising a
2 second seal member on the bushing shank adjacent to the
3 flange for providing a water-tight seal between the flange
4 and a member having a hole into which the bushing shank is
5 inserted, wherein the flange has a recess in which the
6 second seal member is received and that has an outer wall
7 for engaging the member and limiting the compression of the
8 second seal member.

1 8. A clip for connecting a member to a body,
2 comprising:
3 a bushing having a flange, a shank extending from the
4 flange, and a through-hole in the flange and the shank for
5 receiving a shank of a pin therein; and
6 a pin having a head and a shank extending therefrom,
7 wherein the shanks have cooperable parts for expanding
8 the bushing shank when the pin shank is inserted

9 substantially completely in the bushing shank to an
10 expanded position, the bushing shank has at least one pawl
11 extending inwardly of the bushing shank, and the pin shank
12 has a groove for receiving the pawl to hold the pin shank
13 in the bushing shank at a non-expanded position when the
14 pin shank is partially inserted in the bushing shank, and
15 has another groove for receiving the pawl at the expanded
16 position and at which the pawl is free of substantial
17 pressure from the pin shank.

1 9. A clip according to claim 8, wherein the bushing
2 shank is divided longitudinally and the cooperable parts
3 include internal ribs on the bushing shank and a groove on
4 the pin shank that receives the ribs.

1 10. A clip according to claim 8, wherein a seal
2 member is provided between the pin head and the bushing
3 flange and at least one of opposed sides of the pin head
4 and the bushing flange provide a recess for receiving the
5 seal member therein, and a stop is provided on at least one
6 of the bushing flange and the pin head for limiting the
7 movement of the pin head toward the bushing flange and
8 limiting the compression of the seal member therebetween.

1 11. A clip according to claim 10, wherein the stop
2 includes portions of the pin head that engage cooperable
3 portions of the bushing flange.

1 12. A clip according to claim 11, wherein the
2 engaging portions are located adjacent to peripheries of
3 the pin head and the bushing flange.

1 13. A clip according to claim 10, wherein a second
2 seal member is provided on the bushing shank adjacent to
3 the bushing flange in a second recess for compression
4 between the bushing flange and a member having a hole into
5 which the bushing shank is inserted, and wherein the second
6 recess is surrounded by a wall that engages the member and
7 that limits compression of the second seal member.